

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
OPTRES.026C2APPLICATION NO.
10/759,899INFORMATION DISCLOSURE STATEMENT
BY APPLICANT

(USE SEVERAL SHEETS IF NECESSARY)

APPLICANT
Hoffman, et al.FILING DATE
January 19, 2004GROUP
Unknown 2873

U.S. PATENT DOCUMENTS

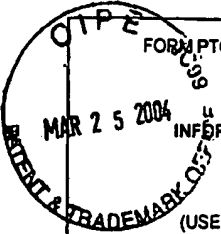
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
M. H	1	3,758,201	09/11/73	MacNeille	351	232	
	2	4,239,329	12/16/80	Matsumoto	385	11	
	3	4,534,649	08/13/85	Downs	356	495	
	4	4,576,479	03/18/86	Downs	356	495	
	5	5,033,830	07/23/91	Jameson	359	484	
	6	5,537,260	07/16/96	Williamson	359	727	
	7	6,081,382	06/27/00	Omura	359	629	
	8	6,084,708	07/04/00	Schuster	359	494	
	9	6,137,626	10/24/00	Takaoka	359	386	
	10	6,172,380	01/09/01	Noguchi, et al.	257	64	
	11	6,195,213	02/27/01	Omura, et al.	359	727	
	12	6,201,634	03/13/01	Sakuma, et al.	359	322	
	13	6,252,712	06/26/01	Fürter, et al.	359	499	
	14	6,259,508	07/10/01	Shigematsu	355	53	
	15	6,324,003	11/27/01	Martin	359	494	
	16	6,455,862	09/24/02	van der Veen, et al.	250	4922	
	17	6,683,710	01/27/04	Hoffman, et al.	359	256	
	18	2001/0026006	10/04/02	Noble, et al.	257	627	
	19	2003/0011893	01/16/03	Shiraishi, et al.	359	726	
	20	2003/0021026	01/2003	Allan, et al.	359	499	
	21	2003/0025894	02/2003	Owa, et al.	355	53	
	22	2003/0053036	03/20/03	Fujishima, et al.	355	53	
	23	2003/0058421	03/27/03	Omura, et al.	355	53	
	24	2003/0067679	04/10/03	Allan, et al.	359	356	
	25	2003/0086071	05/08/03	McGuire, Jr.	355	71	
	26	2003/0086156	05/08/03	McGuire, Jr.	359	352	
✓	27	2003/0086171	05/2003	McGuire, Jr.	359	497	

EXAMINER

DATE CONSIDERED

5/22/04

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	FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. OPTRES.026C2	APPLICATION NO. 10/759,699
	INFORMATION DISCLOSURE STATEMENT BY APPLICANT			APPLICANT Hoffman, et al.
	(USE SEVERAL SHEETS IF NECESSARY)		FILING DATE January 19, 2004	GROUP Unknown 2873

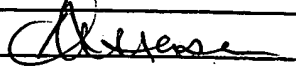
U.S. PATENT DOCUMENTS

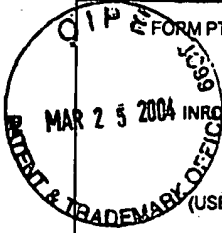
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
M.H.	28	2003/0168597	09/11/03	Webb, et al.	250	330	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
M.H.	29	EP 0 828 172	03/11/98	European Patent Office	-	-		
	30	JP 2000-331927	11/30/00	Japan	-	-		
	31	EP 1 063 684	12/27/00	European Patent Office	-	-		
	32	EP 1 115 019	07/11/01	European Patent Office	-	-		
	33	EP 1 139 138	10/04/01	European Patent Office	-	-		
	34	WO 02/093209	11/21/02	PCT	-	-		
	35	WO 02/097508	12/05/02	PCT	-	-		
	36	WO 02/099500	12/12/02	PCT	-	-		
	37	WO 03/001271	01/03/03	PCT	-	-		
	38	WO 03/009021	01/30/03	PCT (English abstract only)	-	-		
	39	WO 03/009050	01/30/03	PCT	-	-		
	40	WO 03/009062	01/30/03	PCT (English abstract only)	-	-		

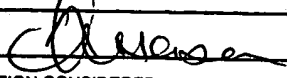
EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
M.H.	41	Rudolf Kingslake, <i>Lens Design Fundamentals</i> , 1978, pp. 320-321, Academic Press, Inc., San Diego, California
	42	A. Hand, "157 nm Optics Demand a Bag of Tricks", Semiconductor International http://www.e-insite.net/semiconductor/index.asp?layout=article&stt (February 2001)
	43	Shiraishi, et al., "Current Status of Nikon's Investigation on CaF ₂ Intrinsic Birefringence", International-SEMATECH. Calcium Fluoride Birefringence Workshop, July 18, 2001, pp. 1-15
	44	Burnett, et al., "Intrinsic Birefringence in Calcium Fluoride", National Institute of Standards and Technology, Gaithersburg, Maryland 20899, submitted for publication to Physical Review Letters (May 11, 2001), pp. 1-12
	45	Burnett, et al., "Minimizing spatial-dispersion-induced birefringence in crystals for precision optics by using mixed crystals of materials with opposite sign of the birefringence", National Institute of Standards and Technology, Gaithersburg, Maryland 20899, http://physics.nist.gov/Divisions/Div842/Gp3/DUVMatChar/birefring.nt (July 12, 2001), pp. 1-3
	46	U.S. Provisional Patent Application 60/306,206, filed July 18, 2001 which is a priority document for WO 03/009050

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EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
M. H	47 U.S. Provisional Patent Application 60/308,844, filed August 1, 2001 (Japanese Language)
	48 English translation of Provisional Application No. 60/308,844, filed August 1, 2001 (filed in USPTO on October 23, 2002)
	49 Burnett, et al., "Intrinsic birefringence in calcium fluoride and barium fluoride", Physical Review B, Vol. 64, May 14, 2001, pp. 241102-1-241102-4
	50 Burnett, et al., "Intrinsic Birefringence in 157 nm Materials", Proceedings of the International Symposium on 157NM Lithography, Dana Point, CA, May 15, 2001, XP002218849, pp. 1-13
	51 Burnett, et al., "Intrinsic Birefringence in 157 nm Materials", Proc 2 nd , Intl. Sump on 157 nm Lithography, 2001, pp. 1-13, International SEMATECH, Austin, Texas
	52 Burnett, et al., "Intrinsic Birefringence in Calcium Fluoride", preprinted handed out at 2 nd International Symposium on 157NM Lithography, Dana Point, CA, May 15, 2001, XP002232195, pp. 1-17
	53 D. Krähmer, "Intrinsic Birefringence in CaF ₂ " at CaF ₂ Birefringence Worksho[...], Intl SEMATECH, July 18, 2001, pp. 1-9
	54 Morton, et al., "Testing Optical Damage for 157 nm Lithography", Semiconductor International, http://www.e-insite.net/semiconductor/index.asp?layout=article&stt (February 2002)
	55 Burnett, et al., "Alternative Materials Development (LITJ216) Final Report - Stress Birefringence, Intrinsic Birefringence, and Index Properties of 157 nm Refractive Materials", International SEMATECH, February 28, 2002, 33 pages
	56 J. Dyson, "Unit magnification optical system without Seidel aberrations," J. Opt. Soc. Am., Vol. 49, 1959, p. 713 as described by R. Kingslake, "Lens Design Fundamentals," Institute of Optics, University of Rochester, Academic Press, Inc., 1978, pp. 320-321
	57 Yeh, et al., "Optics of Liquid Crystal Displays", John Wiley & Sons, Inc., New York, 1999, pp. 380-385
	58 U.S. Patent Application 10/178,601, filed June 20, 2002 (OPTRES.002A)
	59 U.S. Patent Application 10,178,937, filed June 20, 2002 (OPTRES.003A)
	60 U.S. Patent Application 10/178,621, filed June 20, 2002 (OPTRES.004A)
	61 U.S. Patent Application 10/178,935, filed June 20, 2002 (OPTRES.006A)
	62 U.S. Patent Application 10/331,159, filed December 26, 2002 (OPTRES.007A)
	63 U.S. Patent Application 10/331,101, filed December 26, 2002 (OPTRES.012A)
	64 U.S. Patent Application 10/331,103, filed December 26, 2002 (OPTRES.013A)
	65 U.S. Patent Application 10/371,266, filed February 20, 2003 (OPTRES.026C1)
✓	66 U.S. Patent Application 10/371,269, filed February 20, 2003 (OPTRES.026DV1)

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